

State of California  
The Resources Agency

DEPARTMENT OF WATER RESOURCES  
Division of Operations and Maintenance

# STATE WATER PROJECT OPERATIONS DATA

For the month of:  
**February 1999**

**Gray Davis**  
Governor  
State of California

**Mary D. Nichols**  
Secretary for Resources  
The Resources Agency

**Thomas M. Hannigan**  
Director  
Department of Water Resources

State of California  
The Resources Agency

Department of Water Resources  
Division of Operations and Maintenance

**State Water Project  
Operations Data**  
for the month of February 1999

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## **MONTHLY HIGHLIGHTS**

The following highlights are activities or actions that impacted State Water Project operations during the month of February 1999.

Precipitation during the month of February was above average except in Southern California, which remained dry. A number of fast moving storms produced greater than average amounts of rain and snow over the northern half of California, resulting in high water but not seriously high flood stages. Moderate amounts of water flowed over most of the Sacramento River flood control system weirs and into the Sutter and Yolo bypasses. As of February 28, seasonal precipitation was about average statewide, compared to 170 percent last year. Northern Sierra accumulated precipitation was about 44 inches, 127 percent of average, compared to 57.5 inches last year. The snowpack continued to reflect the north to south slant in this year's precipitation. The snowpack was very good, and ranged from 140 percent of the February 28 average in the north to 75 percent in the southern portion of the Sierra; the overall snowpack water content was 125 percent of average. Last year we had 185 percent of average snowpack water content on February 28. Since October 1 seasonal runoff was approximately 115 percent of average, compared to 160 percent of average last year.

In February, reservoir storage increased at approximately the normal pace to about 120 percent of average, which was about the same as one year ago. Substantial flood control releases were made at most Central Valley foothill reservoirs. On February 28, total storage in major SWP reservoirs was about 4.5 MAF, approximately the same as this time in 1998. Storage in Lake Oroville was about 2.79 MAF, compared to 2.7 MAF at this time last year. The State's share of San Luis Reservoir storage was about 1.1 MAF compared to 1.06 MAF at this time last year. The SWP temporarily stored about 40,000 AF in the CVP share of San Luis. That water was released and moved south to refill storage deficits in Southern California resulting from maintenance and repair work on the east and west branches of the California Aqueduct. On February 28, the combined storage in our southern reservoirs was 572,000 AF compared with 690,000 AF at this time last year.

Through February, SWP water deliveries for 1999 were 169,000 AF, representing a combination of annual entitlement, carryover, interruptible, and exchange waters. This is 4,000 AF more than delivered during the same period in 1998.

From February 8 to February 10 the Santa Ana Pipeline was out of service so that a rollout section could be installed in the Box Springs Turnout. The project will benefit operational flexibility for the Santa Ana Pipeline.

On February 10, DWR increased the 1999 allocation of entitlement water for long-term SWP contractors to 2.44 MAF, or about 60 percent of requested water. Major storms during February improved water supply conditions. Increased allocation to contractors was not provided until after the March 1 water supply forecast was reviewed.

Panel replacement at Cottonwood Chute was completed on February 26, 1999.

Repairs to the canal linings were completed at Peace Valley Pipeline and at Lower Quail Canal, and both were ready for use by the end of February.

Seepage repairs continued on the east branch on Pools 43, 47, and 65.

**Table 1. Antelope Lake**

## Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right					
Jan 31	5000.64	21,323									
1	5000.66	21,341	18	20	0	0	0				
2	5000.64	21,323	-18	33	0	0	0				
3	5000.62	21,305	-18	43	0	0	0				
4	5000.61	21,296	-9	43	0	0	0				
5	5000.56	21,251	-45	43	0	0	0				
6	5000.57	21,260	9	43	0	0	0				
7	5000.71	21,385	125	43	0	0	0				
8	5000.81	21,476	91	43	0	0	0				
9	5001.10	21,738	262	43	0	0	0				
10	5001.15	21,783	45	43	0	0	0				
11	5001.17	21,802	19	43	0	0	0				
12	5001.18	21,811	9	43	0	0	0				
13	5001.19	21,820	9	43	0	0	0				
14	5001.19	21,820	0	43	0	0	0				
15	5001.18	21,811	-9	43	0	0	0				
16	5001.22	21,847	36	43	0	0	0				
17	5001.30	21,920	73	43	0	0	0				
18	5001.36	21,975	55	43	0	0	0				
19	5001.37	21,984	9	43	0	0	0				
20	5001.40	22,011	27	43	0	0	0				
21	5001.43	22,039	28	43	0	0	0				
22	5001.43	22,039	0	43	0	0	0				
23	5001.42	22,030	-9	43	0	0	0				
24	5001.44	22,048	18	43	0	0	0				
25	5001.46	22,066	18	43	0	0	0				
26	5001.38	21,993	-73	72	0	0	0				
27	5001.22	21,847	-146	100	0	0	0				
28	5001.20	21,829	-18	100	0	0	0				
Total cfs-days			---	1,314	0	0	0	37	1,351	1,606	
Total ac-ft			506	2,606	0	0	0	73	2,679	3,185	

1/ Values not available on a daily basis.

**Table 2. Frenchman Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow	
				Regulated Release		Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/		
				Stream-flow Maint.	Water Supply Contract					
Jan 31	5583.43	48,550								
1	5583.46	48,594	44	2	0	0	0			
2	5583.53	48,695	101	2	0	0	0			
3	5583.59	48,783	88	2	0	0	0			
4	5583.60	48,797	14	2	0	0	0			
5	5583.62	48,827	30	2	0	0	0			
6	5583.67	48,900	73	2	0	0	0			
7	5583.82	49,119	219	2	0	0	0			
8	5583.96	49,324	205	2	0	0	0			
9	5584.25	49,751	427	2	0	0	0			
10	5584.26	49,765	14	2	0	0	0			
11	5584.34	49,884	119	2	0	0	0			
12	5584.48	50,091	207	2	0	0	0			
13	5584.50	50,120	29	2	0	0	0			
14	5584.57	50,224	104	2	0	0	0			
15	5584.66	50,358	134	2	0	0	0			
16	5584.76	50,506	148	2	0	0	0			
17	5584.75	50,492	-14	2	0	0	0			
18	5584.93	50,760	268	2	0	0	0			
19	5584.85	50,640	-120	2	0	0	0			
20	5584.96	50,805	165	2	0	0	0			
21	5585.00	50,864	59	2	0	0	0			
22	5584.99	50,849	-15	2	0	0	0			
23	5585.04	50,924	75	2	0	0	0			
24	5585.07	50,969	45	2	0	0	0			
25	5585.21	51,179	210	2	0	0	0			
26	5585.27	51,269	90	2	0	0	0			
27	5585.34	51,374	105	2	0	0	0			
28	5585.42	51,495	121	2	0	0	0			
Total cfs-days				---	56	0	0	0	52	
Total ac-ft				2,945	111	0	0	0	104	
									1,593	
									215	
									3,160	

1/ Values not available on a daily basis.

**Table 3. Lake Davis**

Daily Operation  
(in acre-feet except as noted)

Capacity: 84,371 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Jan 31	5770.56	67,507								
1	5770.56	67,507	0	23	0	0	0			
2	5770.57	67,543	36	23	0	0	0			
3	5770.58	67,579	36	23	0	0	0			
4	5770.59	67,614	35	23	0	0	0			
5	5770.58	67,579	-35	23	0	0	0			
6	5770.58	67,579	0	23	0	0	0			
7	5770.69	67,614	35	23	0	0	0			
8	5770.81	68,404	790	23	0	0	0			
9	5771.03	69,198	794	23	0	0	0			
10	5771.03	69,198	0	23	0	0	0			
11	5771.04	69,234	36	23	0	0	0			
12	5771.08	69,379	145	23	0	0	0			
13	5771.10	69,451	72	23	0	0	0			
14	5771.11	69,488	37	23	0	0	0			
15	5771.12	69,524	36	23	0	0	0			
16	5771.15	69,633	109	23	0	0	0			
17	5771.20	69,815	182	23	0	0	0			
18	5771.27	70,070	255	23	0	0	0			
19	5771.29	70,143	73	23	0	0	0			
20	5771.33	70,288	145	23	0	0	0			
21	5771.37	70,435	147	23	0	0	0			
22	5771.39	70,508	73	23	0	0	0			
23	5771.42	70,618	110	23	0	0	0			
24	5771.44	70,691	73	23	0	0	0			
25	5771.50	70,911	220	23	0	0	0			
26	5771.50	70,911	0	23	0	0	0			
27	5771.53	71,021	110	23	0	0	0			
28	5771.59	71,241	220	23	0	0	0			
Total cfs-days				---	644	0	0	128	772	2,654
Total ac-ft				3,734	1,277	0	0	253	1,530	5,264

1/ Values not available on a daily basis.

**Table 4. Lake Oroville**

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow					Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Evaporation 2/	Spill	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 3/
Jan 31	846.96	2,767,779								
1	846.55	2,762,339	-5,440	17,766	5	8	0	17,779	0	12,339
2	846.36	2,759,821	-2,518	14,827	5	15	0	14,847	0	12,329
3	846.28	2,758,761	-1,060	15,389	5	30	0	15,424	0	14,364
4	845.90	2,753,731	-5,030	18,547	5	45	0	18,597	0	13,567
5	844.77	2,738,809	-14,922	26,806	5	30	0	26,841	0	11,919
6	843.71	2,724,864	-13,945	29,426	5	30	2,149	31,610	0	17,665
7	844.04	2,729,200	4,336	29,259	5	22	3,967	33,253	0	37,589
8	844.96	2,741,314	12,114	28,442	5	15	1,983	30,445	0	42,559
9	851.13	2,823,533	82,219	26,224	5	60	0	26,289	0	108,508
10	853.33	2,853,263	29,730	29,050	5	38	1,405	30,498	0	60,228
11	854.09	2,863,585	10,322	28,560	6	54	3,967	32,587	0	42,909
12	854.19	2,864,945	1,360	29,133	6	54	4,194	33,387	0	34,747
13	853.73	2,858,692	-6,253	29,109	6	62	3,967	33,144	0	26,891
14	852.97	2,848,383	-10,309	29,163	6	15	3,967	33,151	0	22,842
15	852.17	2,837,560	-10,823	29,091	6	38	3,967	33,102	0	22,279
16	851.68	2,830,945	-6,615	29,198	6	38	4,363	33,605	0	26,990
17	852.20	2,837,965	7,020	29,156	6	0	6,117	35,279	0	42,299
18	851.30	2,825,823	-12,142	29,242	6	31	20,248	49,527	0	37,385
19	850.50	2,815,060	-10,763	29,260	6	46	21,347	50,659	0	39,896
20	849.52	2,801,915	-13,145	29,274	6	76	20,843	50,199	0	37,054
21	848.55	2,788,946	-12,969	29,174	6	23	20,405	49,608	0	36,639
22	847.49	2,774,822	-14,124	29,403	6	8	15,983	45,400	0	31,276
23	847.53	2,775,354	532	26,634	6	23	0	26,663	0	27,195
24	847.46	2,774,423	-931	26,932	6	68	0	27,006	0	26,075
25	847.84	2,779,480	5,057	26,824	6	53	0	26,883	0	31,940
26	847.89	2,780,146	666	26,251	6	60	0	26,317	0	26,983
27	847.82	2,779,214	-932	23,832	6	15	0	23,853	0	22,921
28	848.74	2,791,482	12,268	25,585	6	75	0	25,666	0	37,934
Total		23,703	741,557	158	1,032	138,872	881,619	0	905,322	

1/ Includes bypass flows

2/ Evaporation will be zero for days when there is precipitation or heavy overcast

3/ Does not include pumpback

**Table 5. Thermalito Forebay  
Including Diversion Pool and Power Canal**

Daily Operator

(in acre-feet except as noted)

Capacity: 25,120 ac-ft

**February 1999**

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Jan 31	22,375										
1	22,552	177	17,766	256	0	17,177	2	3	1,233	0	570
2	22,500	-52	14,827	512	0	14,384	2	3	1,235	0	233
3	22,834	334	15,389	498	0	14,542	2	3	1,235	0	229
4	22,627	-207	18,547	504	0	18,293	2	3	1,237	0	277
5	23,659	1,032	26,806	508	0	25,261	2	3	1,231	0	215
6	23,551	-108	31,575	508	0	31,336	2	3	1,243	0	393
7	23,447	-104	33,226	500	0	33,067	2	4	1,247	0	490
8	23,584	137	30,425	496	0	30,135	3	4	1,253	0	611
9	23,947	363	26,224	498	0	26,028	3	4	1,257	0	933
10	23,500	-447	30,455	506	0	30,339	3	4	1,222	0	160
11	23,064	-436	32,527	522	0	32,424	3	4	1,241	0	187
12	23,367	303	33,327	476	0	32,789	3	4	1,235	0	531
13	23,372	5	33,076	504	0	32,822	3	4	1,239	0	493
14	23,330	-42	33,130	504	0	32,857	3	4	1,273	0	461
15	23,131	-199	33,058	496	0	32,868	3	4	1,275	0	397
16	23,516	385	33,561	500	0	33,393	3	4	1,404	0	1,128
17	23,259	-257	35,273	500	0	31,490	3	4	4,494	0	-39
18	22,610	-649	49,490	502	0	33,817	3	4	15,582	0	-1,235
19	22,848	238	50,607	506	0	33,829	3	4	16,018	0	-1,021
20	23,009	161	50,117	553	0	33,843	3	4	15,919	0	-740
21	22,696	-313	49,579	446	0	33,826	3	4	15,939	0	-566
22	23,451	755	45,386	498	0	33,304	3	4	11,635	0	-183
23	22,355	-1,096	26,634	498	0	26,837	3	4	1,394	0	10
24	22,479	124	26,932	434	0	26,248	3	4	1,352	0	365
25	22,553	74	26,824	536	0	26,450	3	4	1,299	0	470
26	22,518	-35	26,251	462	0	25,864	3	4	1,289	0	412
27	22,849	331	23,832	508	0	22,986	3	4	1,283	0	267
28	22,934	85	25,585	499	0	25,281	3	4	1,317	0	606
Total		559	880,429	13,730	0	791,490	77	106	107,581	0	5,654

1/ Sum of Thermalito Forebay and Diversion Pool.

2/ Sum of releases from Lake Oroville through Hyatt plant, spill, and spillway leakage.

3/ Includes Bypass flows at Thermalito.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

**Table 6. Thermalito Afterbay**

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow					Losses (-) and Gains (+)	Total Releases to River 2/
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback		
Jan 31	128.93	28,688										
1	128.56	27,534	-1,154	17,177	0	0	0	0	17,772	0	-559	19,005
2	128.73	28,062	528	14,384	0	0	0	0	13,250	0	-606	14,485
3	129.15	29,385	1,323	14,542	0	0	0	0	12,754	0	-465	13,989
4	130.29	33,122	3,737	18,293	0	0	0	0	13,666	0	-890	14,903
5	131.24	36,396	3,274	25,261	0	0	0	0	21,620	0	-367	22,851
6	131.54	37,460	1,064	31,336	0	0	0	0	30,744	0	472	31,987
7	131.55	37,496	36	33,067	0	0	0	0	32,728	0	-303	33,975
8	131.78	38,322	826	30,135	0	0	0	0	29,356	0	47	30,609
9	132.01	39,156	834	26,028	0	0	0	0	25,190	0	-4	26,447
10	131.85	38,575	-581	30,339	0	0	0	0	31,141	0	221	32,363
11	131.48	37,247	-1,328	32,424	0	0	0	0	33,918	0	166	35,159
12	131.19	36,221	-1,026	32,789	0	0	0	0	33,918	0	103	35,153
13	130.92	35,277	-944	32,822	0	0	0	0	33,918	0	152	35,157
14	130.62	34,243	-1,034	32,857	0	0	0	0	33,918	0	27	35,191
15	130.36	33,358	-885	32,868	0	0	0	0	33,918	0	165	35,193
16	130.44	33,629	271	33,393	0	0	0	0	33,918	0	796	35,322
17	129.90	31,820	-1,809	31,490	0	0	0	0	33,918	0	619	38,412
18	130.04	32,285	465	33,817	0	0	0	0	33,918	0	566	49,500
19	129.99	32,118	-167	33,829	0	0	0	0	33,918	0	-78	49,936
20	130.15	32,652	534	33,843	0	0	0	0	33,918	0	609	49,837
21	130.13	32,585	-67	33,826	0	0	0	0	33,918	0	25	49,857
22	130.08	32,418	-167	33,304	0	0	0	0	33,521	0	50	45,156
23	130.06	32,351	-67	26,837	0	0	0	0	26,777	0	-127	28,171
24	129.92	31,886	-465	26,248	0	0	0	0	26,777	0	64	28,129
25	129.77	31,391	-495	26,450	0	0	0	0	26,777	0	-168	28,076
26	129.51	30,542	-849	25,864	0	0	0	0	26,777	0	64	28,066
27	128.33	26,828	-3,714	22,986	0	0	0	0	26,777	0	77	28,060
28	127.90	25,532	-1,296	25,281	0	0	0	0	26,777	0	200	28,094
<b>Total</b>		-3,156		791,490	0	0	0	0	795,502	0	856	903,083

1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

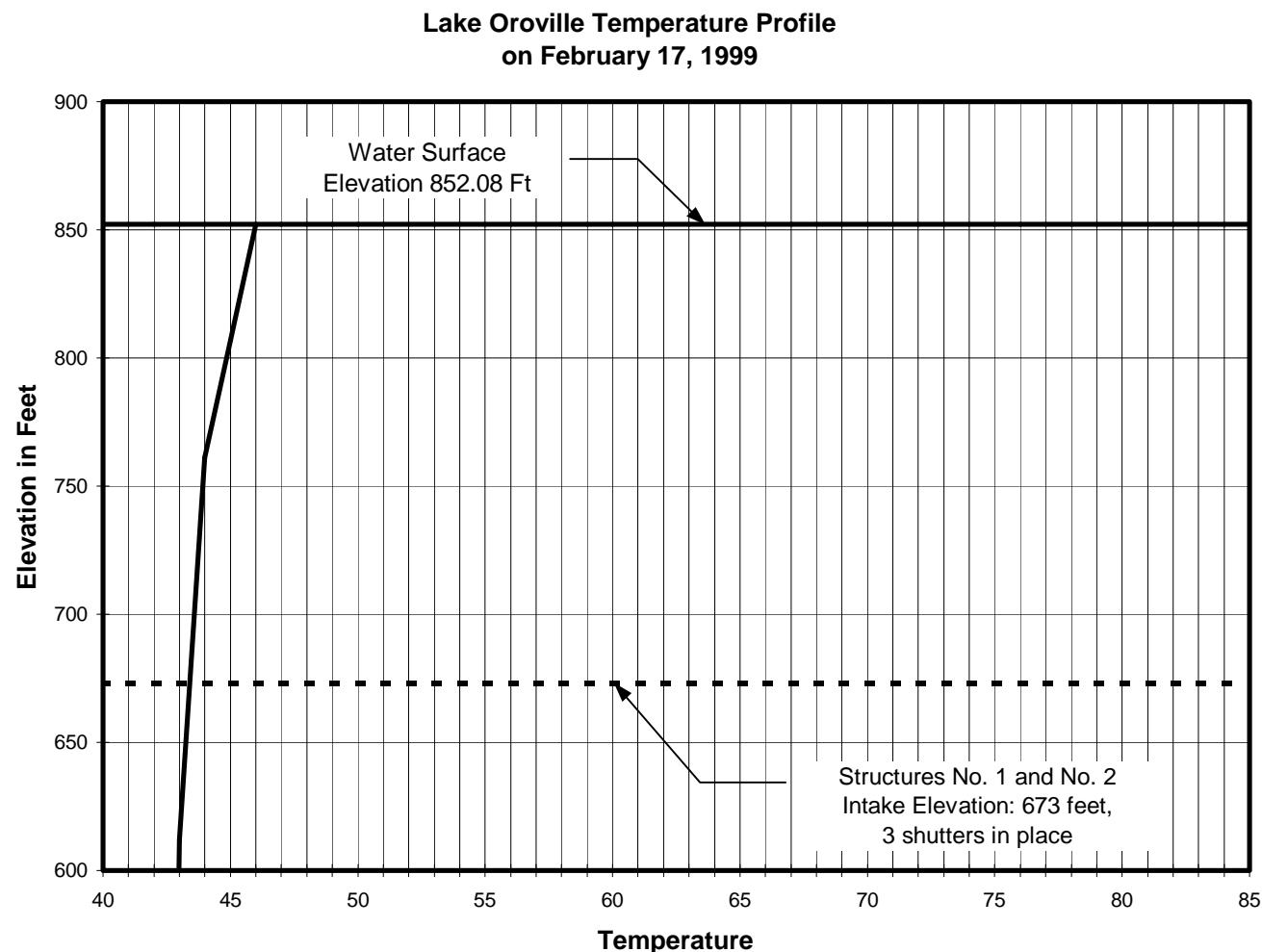
**Table 7. Oroville-Thermalito Complex**

Water Temperature Data

(in degrees Fahrenheit)

**February 1999**

Date	Mean Daily Temperature	
	Thermalito Afterbay Outlet	Fish Hatchery
1	44	45
2	45	45
3	45	45
4	45	45
5	45	45
6	44	45
7	45	45
8	45	46
9	46	45
10	45	46
11	44	46
12	45	45
13	44	45
14	45	45
15	45	45
16	46	45
17	46	45
18	45	46
19	46	46
20	45	46
21	45	45
22	46	46
23	46	45
24	46	45
25	45	44
26	46	45
27	46	45
28	46	45



Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

**Table 8. Aqueduct Operation**  
**Delta Field Division**  
(in acre-feet except as noted)

February 1999

<u>North Bay Aqueduct</u>	
Pumped at Barker Slough Pumping Plant	1,400
Travis Turnout	56
Fairfield/Vacaville Turnout	0
Pumped at Cordelia Pumping Plant	1,298
Cordelia Pumping Plant Spillway	0
Computed Losses (-) or Gains (+)	-46
Benicia Turnout	373
Vallejo Turnout	120
American Canyon 1	75
American Canyon 2	0
Napa City Turnout	730
Total Deliveries (After Cordelia)	1,298
Change in Storage at Napa Terminal Tank	0
<u>California Aqueduct</u>	
Amount Pumped at Banks Pumping Plant	52,203
Amount Pumped at South Bay Pumping Plant	5,807
Deliveries From California Aqueduct ( Oak Flat Water District, Tracy Golf, Veterans Cemetery, and Musco Olive)	70
Inflow into California Aqueduct	0
Change in Storage	358
Flow Past Check 12	45,472
Computed Losses (-) or Gains (+)	-496

**Table 9. Delta Field Division Plant Data**

(in acre-feet)

**February 1999**

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct			
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant		
			Total	SWP		Into Lake	Into Aqueduct	Gravity Flow Through Plant Into Aqueduct
1	59	53	547	547	370	131	0	0
2	62	58	441	441	383	137	0	0
3	74	64	540	540	403	164	0	0
4	73	66	498	498	388	163	0	0
5	78	67	369	369	391	166	0	0
6	57	58	282	282	388	166	0	0
7	57	57	375	375	377	165	0	0
8	71	61	699	699	358	147	0	0
9	55	47	1,402	1,402	350	133	0	0
10	65	59	1,645	1,645	312	103	0	0
11	60	58	3,181	3,181	140	0	0	0
12	59	55	2,747	2,747	134	0	0	0
13	73	70	1,159	1,159	102	0	0	0
14	60	59	2,206	2,206	113	0	0	0
15	29	31	1,045	1,045	108	0	0	0
16	40	37	377	377	103	0	0	0
17	42	35	162	162	109	0	0	0
18	33	31	128	128	114	0	0	0
19	35	31	0	0	109	0	0	0
20	36	38	135	135	107	0	0	0
21	28	30	128	128	119	0	0	0
22	32	31	987	987	109	0	0	0
23	35	36	2,685	2,685	113	0	0	0
24	51	49	5,537	1,715	110	0	0	0
25	32	31	5,766	1,944	167	0	0	0
26	37	18	6,616	2,794	128	0	0	0
27	39	38	7,859	3,044	100	0	0	0
28	28	30	4,687	4,687	102	0	0	0
Total	1,400	1,298	52,203	35,922	5,807	1,479	0	0

**Table 10. Clifton Court Forebay**

## Daily Operation of Gates

February 1999

**Table 11. Governor Edmund G. Brown California Aqueduct**

Delta Field Division, Monthly Deliveries

(In acre-feet)

**February 1999**

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitle-ment	USBR	Misc.	Loan Water	1997 Carryover Ent.	
	No.	Structure	Mile							
1	Banks Pumping Plant	3.32		52,203	39	39	39	39	39	
	South Bay Pumping Plant	4.49	Bethany Reservoir Inlet	5,807						
	Check No. 1	5.95								
	Check No. 2	12.01								
	3	12.47	Musco Olive	39						
	Check No. 3	18.29								
	4	22.16	Tracy Golf & Country Club	0						
	Check No. 4	23.99								
	5	Check No. 5	29.73							
	6	Check No. 6	34.24							
	7	35.22	Turlock Fruit Company Inflow	0						
	Check No. 7	39.91								
2A	8	42.46	Oak Flat Water District-A	0	29	29	29	29	29	
		43.81	Oak Flat Water District-B	0						
		44.64	Oak Flat Water District-C	0						
		Check No. 8	45.97							
	9	46.18	Oak Flat Water District-D	29						
2B	10	Oak Flat Totals:		29	29	29	29	29	29	
		Check No. 9	51.30							
		Check No. 10	56.86							
		Check No. 11	61.40							
		66.14	Veteran's Cemetery	2						
	12	66.71		45,472						

**Table 12. South Bay Aqueduct**  
Delta Field Division, Monthly Deliveries

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending					Entitle- ment	Interrup- table Entitlement	Local	Recre- ation		
	No.	Structure	Mile								
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	5,807			3			
			3.17	Granite - Vasco Rd. (Temp.)	0						
			3.18	Oakland Scavenger Zone 7	3						
		Check No. 1	3.91								
	2	Check No. 2	5.21								
2	3		7.21	Zone 7 Altamont	0		474				
		Check No. 3	9.49	Zone 7 Patterson Inflow Exchange	474						
				Zone 7 Patterson Project Water	0						
	4	Check No. 4	10.68								
	5	Check No. 5	12.29								
4	6		13.55	Zone 7 Wente #1	0		104				
			14.16	Zone 7 Wente #2	0						
		Check No. 6	14.65								
			14.78	Zone 7 Arroyo Mocho	0						
		Check No. 7	16.38								
			16.57	Zone 7 Wente #3	0						
	7		16.69	Zone 7 Norman Nursery	0						
			16.70	Zone 7 Concannon Stored Exchange	0						
		Del Valle Branch Pipeline Junction	18.63	(Flow into Lake Del Valle)	1,479						
				(Flow into South bay Aqueduct)	0						
5	8	Deliveries through Del Valle Branch Pipeline		Arroyo Valle #1 & #2			1,146				
				Inflow Released	0						
				Arroyo Valle #1 & #2							
				Inflow Exchange	104						
				Lake Del Valle Recreation	0						
				Zone 7 Wente #5	0						
6			19.20	So. Livermore Project	0		1,146				
				So. Livermore Stored Released	0						
				So. Livermore Inflow Exchanged	1,146						
			19.21	Zone 7 - Kalthrof Detjens	0						
7		La Costa Tunnel	22.50	ACWD Vallecitos	0		1,370				
			25.97	City of San Francisco San Antonio	0						
				ACWD - Bayside 1 & 2 Project Water:	0						
8		Mission Tunnel	28.97	Inflow Released	0		1,370				
				Inflow Exchange:	1,370						
			35.86	S.C.V.W.D. Meter	1,221						

Table 13. Lake Del Valle

## Daily Operation

(in acre-feet except as noted)

Capacity: 77,106 ac-ft

February 1999

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)
				Natural 1/ 3/	From South Bay Aqueduct	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/	Evaporation	Total Outflow 3/	
Jan 31	680.86	26,228									
1	681.12	26,364	136		131	0	0	0	2	2	0.00
2	681.78	26,712	348		137	0	0	0	2	2	0.00
3	682.21	26,941	229		164	0	0	0	2	2	0.00
4	682.63	27,166	225		163	0	0	0	3	3	0.00
5	683.02	27,377	211		166	0	0	0	2	2	0.00
6	683.44	27,606	229		166	0	0	0	0	0	0.01
7	684.51	28,195	589		165	0	0	0	0	0	0.66
8	685.71	28,869	674		147	0	0	0	0	0	0.20
9	689.30	30,961	2,092		133	0	0	0	3	3	1.17
10	690.95	31,958	997		103	0	0	0	2	2	0.01
11	691.50	32,297	339		0	0	0	0	2	2	0.00
12	691.82	32,495	198		0	0	0	0	3	3	0.00
13	692.02	32,618	123		0	0	0	0	1	1	0.00
14	692.21	32,735	117		0	0	0	0	1	1	0.10
15	692.33	32,814	79		0	0	0	0	2	2	0.00
16	692.45	32,886	72		0	0	0	0	0	0	0.01
17	692.74	33,067	181		0	0	0	0	2	2	0.21
18	692.98	33,218	151		0	0	0	0	1	1	0.13
19	693.15	33,325	107		0	0	0	0	3	3	0.12
20	693.43	33,503	178		0	0	0	0	0	0	0.00
21	694.17	33,969	466		0	0	0	0	3	3	0.69
22	694.63	34,264	295		0	0	0	0	3	3	0.00
23	694.92	34,451	187		0	0	0	0	2	2	0.00
24	695.14	34,592	141		0	0	0	0	3	3	0.00
25	695.35	34,730	138		0	0	0	0	2	2	0.31
26	695.53	34,845	115		0	0	0	0	3	3	0.00
27	695.65	34,922	77		0	0	0	0	4	4	0.00
28	695.77	35,000	78		0	0	0	1	0	1	0.00
Total				8,772	7,348	1,479	0	0	1	54	55
3.62											

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

3/ Not available on a daily basis.

NR=No Records

**Table 14. Consolidated State-Federal O'Neill Forebay**

Daily Operations

**February 1999**

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 56,430 Acre-feet

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
				Pump In 1/	O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct	O'Neill Pumping Generating Plant (Generation)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliv- erries 2/ 3/	
Jan 31	220.87	45,420										
1	220.79	45,210	-210	0	3,291	0	0	0	1,022	2,333	1	-41
2	220.54	44,557	-653	0	3,071	0	0	0	1,132	2,338	7	77
3	220.56	44,609	52	0	2,992	0	0	0	783	2,236	8	61
4	221.15	46,154	1,545	0	2,967	0	0	0	0	2,275	7	94
5	220.86	45,394	-760	0	2,763	0	0	0	1,005	2,062	6	-73
6	220.68	44,923	-471	0	2,878	0	94	0	929	2,089	11	-180
7	219.02	40,635	-4,288	0	2,994	0	0	0	2,798	2,644	11	297
8	219.31	41,375	740	0	3,012	0	27	0	0	2,745	18	97
9	220.51	44,479	3,104	0	3,093	105	644	0	0	2,209	20	-48
10	220.57	44,635	156	0	3,048	263	542	0	1,324	2,384	19	-47
11	220.95	45,629	994	0	2,918	0	1,664	0	1,324	2,791	11	45
12	221.13	46,101	472	0	2,834	0	1,113	0	1,630	2,104	12	37
13	221.33	46,626	525	0	2,855	0	714	0	1,266	2,021	27	10
14	221.37	46,731	105	0	2,836	0	1,082	0	1,770	2,150	28	83
15	221.62	47,388	657	0	2,878	0	287	0	664	2,132	27	-11
16	222.50	49,713	2,325	0	2,749	0	220	0	664	1,031	34	-68
17	222.65	50,113	400	0	2,663	0	42	0	665	1,780	34	-24
18	221.11	46,049	-4,064	0	2,604	0	0	0	2,370	2,368	27	112
19	220.05	43,282	-2,767	0	2,801	0	0	0	1,322	2,817	27	-30
20	219.56	42,016	-1,266	0	2,819	0	0	0	513	3,019	42	117
21	218.86	40,229	-1,787	0	3,434	0	0	0	1,743	2,445	40	-107
22	219.51	41,887	1,658	0	3,379	262	371	0	503	2,755	30	112
23	219.01	40,610	-1,277	0	3,488	174	1,345	0	2,201	3,418	28	-4
24	219.67	42,299	1,689	0	3,389	13	2,612	0	2,176	2,986	26	26
25	220.49	44,427	2,128	0	3,314	0	2,624	0	1,784	3,132	30	81
26	221.56	47,230	2,803	0	3,294	0	3,219	0	1,695	3,459	26	80
27	223.12	51,367	4,137	0	3,325	0	3,893	0	1,845	3,504	20	237
28	221.36	46,705	-4,662	0	3,240	0	2,433	0	4,283	4,050	20	330
Total			1,285	0	84,929	817	22,926	0	37,411	71,277	597	1,261
Mean cfs			---	0	3,033	29	819	0	1,336	2,546	21	45
ac-ft			1,285	0	168,458	1,620	45,472	0	74,206	141,376	1,179	2,496

1/ Pump-in located at Mile 79.67R.

2/ Includes 47 AF delivered to DFG at O'Neill Forebay.

3/ Adjustment added to the 28th, due to End of Contractors Water Year.

**Table 15. Consolidated State-Federal San Luis Reservoir**

Daily Operations

February 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 2,027,835 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)	Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Parks and Rec. Del.	
Jan 31	535.18	1,929,319						
1	535.29	1,930,693	1,374	1,022	0	136	0	-193
2	535.43	1,932,442	1,749	1,132	0	130	0	-120
3	535.53	1,933,692	1,250	783	0	95	0	-58
4	535.53	1,933,692	0	0	0	126	0	126
5	535.58	1,934,317	625	1,005	0	130	0	-560
6	535.72	1,936,067	1,750	929	0	130	0	83
7	536.12	1,941,071	5,004	2,798	0	125	0	-150
8	536.15	1,941,446	375	0	0	115	0	304
9	536.23	1,942,448	1,002	0	105	124	0	734
10	536.33	1,943,700	1,252	1,324	263	124	0	-306
11	536.48	1,945,578	1,878	1,324	0	135	0	-242
12	536.69	1,948,209	2,631	1,630	0	156	0	-148
13	536.86	1,950,340	2,131	1,266	0	164	0	-28
14	537.04	1,952,597	2,257	1,770	0	163	0	-469
15	537.13	1,953,725	1,128	664	0	163	0	68
16	537.22	1,954,854	1,129	664	0	159	0	64
17	537.26	1,955,356	502	665	0	157	0	-255
18	537.58	1,959,373	4,017	2,370	0	145	0	-200
19	537.71	1,961,005	1,632	1,322	0	188	0	-311
20	537.78	1,961,884	879	513	0	184	0	114
21	537.98	1,964,397	2,513	1,743	0	178	0	-298
22	537.96	1,964,146	-251	503	262	190	0	-178
23	538.21	1,967,288	3,142	2,201	174	194	0	-249
24	538.50	1,970,936	3,648	2,176	13	170	0	-154
25	538.70	1,973,453	2,517	1,784	0	154	0	-361
26	538.91	1,976,097	2,644	1,695	0	188	0	-174
27	539.12	1,978,742	2,645	1,845	0	143	0	-368
28	539.67	1,985,676	6,934	4,283	0	143	0	-644
<b>Total</b>			56,357	37,411	817	4,209	0	-3,973
<b>Mean cfs</b>			---	1,336	29	150	0	-142
<b>ac-ft</b>			56,357	74,206	1,620	8,348	0	-7,881

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 7978 AF, San Benito: 370 AF.

**Table 16. San Luis Field Division Plant Data**

(in acre-feet)

**February 1999**

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant				San Felipe Project
	Total Pumping	SWP Pumping 1/, 2/	Total Generation	SWP Generation 1/, 2/	Total Pumping	SWP Pumping 1/, 2/	Federal
1	4,627	665	0	0	2,027	18	270
2	4,637	670	0	0	2,245	17	258
3	4,436	442	0	0	1,553	5	189
4	4,513	390	0	0	0	0	250
5	4,089	541	0	0	1,993	-18	257
6	4,144	1,511	0	0	1,843	4	257
7	5,245	1,159	0	0	5,550	-19	247
8	5,445	1,453	0	0	0	0	228
9	4,381	410	208	208	0	0	246
10	4,728	541	521	521	2,626	-64	246
11	5,535	1,529	0	0	2,626	-36	267
12	4,173	96	0	0	3,234	-64	310
13	4,008	107	0	0	2,511	-21	326
14	4,264	242	0	0	3,511	47	324
15	4,229	378	0	0	1,317	13	324
16	2,044	75	0	0	1,317	12	316
17	3,530	206	0	0	1,319	18	312
18	4,697	1,381	0	0	4,701	-6	287
19	5,587	1,919	0	0	2,623	-2	372
20	5,989	2,213	0	0	1,018	16	364
21	4,850	1,189	0	0	3,457	21	353
22	5,465	1,375	519	519	997	-71	377
23	6,780	2,599	346	346	4,365	-70	385
24	5,922	1,242	26	26	4,317	-70	338
25	6,213	1,271	0	0	3,539	-125	306
26	6,861	3,022	0	0	3,362	-402	373
27	6,950	3,266	0	0	3,660	-14	283
28	8,034	4,350	0	0	8,495	-28	283
<b>Total</b>	<b>141,376</b>	<b>34,242</b>	<b>1,620</b>	<b>1,620</b>	<b>74,206</b>	<b>-839</b>	<b>8,348</b>

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;  
adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

**Table 17. Consolidated State-Federal Los Banos Reservoir**

Daily Operations

February 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 34,560 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Jan 31	327.22	20,304					
1	327.52	20,444	140	71	0	0	-1
2	327.69	20,524	80	40	0	0	1
3	327.82	20,585	61	31	0	0	0
4	327.71	20,533	-52	24	0	50	0
5	326.93	20,169	-364	17	0	200	-1
6	326.14	19,804	-365	16	0	200	0
7	326.19	19,827	23	95	0	83	-1
8	326.96	20,183	356	179	0	0	1
9	329.37	21,320	1,137	632	0	58	-2
10	329.51	21,387	67	234	0	200	0
11	329.10	21,191	-196	101	0	200	0
12	328.53	20,920	-271	64	0	200	-1
13	327.92	20,632	-288	55	0	200	0
14	327.27	20,328	-304	47	0	200	-1
15	326.52	19,979	-349	24	0	200	0
16	325.96	19,722	-257	33	0	162	-1
17	325.85	19,671	-51	37	0	63	1
18	326.01	19,744	73	37	0	0	0
19	326.18	19,823	79	40	0	0	0
20	326.32	19,887	64	32	0	0	1
21	326.85	20,132	245	124	0	0	-1
22	327.14	20,267	135	68	0	0	0
23	327.35	20,365	98	49	0	0	1
24	327.51	20,440	75	38	0	0	0
25	327.67	20,515	75	38	0	0	0
26	327.79	20,571	56	28	0	0	0
27	327.42	20,398	-173	29	0	116	0
28	326.68	20,053	-345	26	0	200	0
<b>Total</b>			-251	2,209	0	2,332	-4
<b>Mean cfs-days</b>			---	71	0	83	---
<b>Acre-feet</b>			-251	4,382	0	4,630	-4

**Table 18. Consolidated State-Federal Little Panoche Reservoir**

Daily Operations

February 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 5,580 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Computed Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Jan 31	602.80	838					
1	Not Observed			7	0	7	0
2	Not Observed			7	0	7	0
3	Not Observed			7	0	7	0
4	Not Observed			7	0	7	0
5	602.50	821	-17	0	0	6	-5
6	Not Observed			6	0	6	0
7	602.75	835	14	13	0	6	0
8	602.80	838	3	8	0	6	-1
9	602.85	841	3	11	0	9	-1
10	602.90	844	3	11	0	9	-1
11	Not Observed			9	0	9	0
12	602.86	842	-2	8	0	9	0
13	Not Observed			9	0	9	0
14	Not Observed			9	0	9	0
15	Not Observed			9	0	9	0
16	Not Observed			9	0	9	0
17	602.75	835	-7	2	0	6	1
18	Not Observed			6	0	6	0
19	602.75	835	0	6	0	6	0
20	602.75	835	0	6	0	6	0
21	602.82	840	5	10	0	7	-1
22	602.75	835	-5	3	0	6	1
23	Not Observed			6	0	6	0
24	Not Observed			6	0	6	0
25	Not Observed			6	0	6	0
26	602.70	832	-3	3	0	5	1
27	Not Observed			5	0	5	0
28	602.70	832	0	5	0	5	0
Total			-6	194	0	194	---
Mean cfs			---	7	0	7	---
ac-ft			-6	385	0	385	-6

1/ Not available on a daily basis

**Table 19a. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries					
	Beginning and Ending					USBR	Transfer	DWR	USBR		
	No.	Structure	Mile					Recreation	Recreation		
2B	12	Check No. 12	66.71		45,472						
3	13	O'Neill Forebay		Department of Parks and Recreation	2			1	1		
		Outlet Check No. 13	70.85	Department of Fish & Game	47			26	21		
		Thru	70.91	San Luis Water District	1,132	1,132					
			85.08	(Floodwater Inflow)	0						
				Reach 3 Subtotal:	1,181			1,132	0		
		Dos Amigos Pumping Plant	86.73		141,376			27	22		
4	14	Thru	89.03	San Luis Water District	4,246	4,246					
			94.06								
			89.66	Pacheco Water District	881		881				
			89.67								
			89.68	Panoche Water District	3		3				
		Thru	89.70	City of Dos Palos	62						
			95.06								
			98.15	San Luis Water District	454	454					
			104.20								
			96.15	Panoche Water District	3,649		3,649				
		Thru	102.64	(Floodwater Inflow)	0						
			102.64	Broadview Water District	1		1				
			105.22	Westlands Water District	6,552						
			108.64								
		Check No.15	108.50								
				Pacheco Water District Total:	881	881	0	0	0		
				Broadview Water District Total:	1	1	0	0	0		
				City of Dos Palos Total:	62	62	0	0	0		
				SLWD Reach 4 Subtotal:	4,700	4,700	0	0	0		
				Panoche Water District Total:	3,652	3,652	0	0	0		
				SLWD Total:	5,832	5,832	0	0	0		
				Westlands WD Reach 4 Subtotal:	6,552	6,552	0	0	0		

**Table 19b. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries							
	Beginning and Ending					USBR	Transfer	DWR	USBR				
	No.	Structure	Mile					Recreation	Recreation				
5	16		110.52	(Reverse flow, Kings River)	0	12,899	12,899						
			Thru	Westlands Water District	12,899								
			122.05	Department of Fish and Game	0								
		Check No. 16	122.07										
	17		124.18	Westlands Water District	17,301	17,301	17,301						
			132.74										
		Check No. 17	132.95										
	18		133.81	Westlands Water District	11,352	11,352	11,352						
			142.61										
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	10,514								
			143.16	City of Coalinga	239								
		Check No. 18	143.23										
				Westlands WD Reach 5 Subtotal:	52,066	52,066	0	0	0				
6	19		145.26	Westlands Water District	14,370	14,370	14,370						
			Thru										
			151.19										
		Check No. 19	155.64										
				Westlands WD Reach 6 Subtotal:	14,370	14,370	0	0	0				
7	20		156.34	City of Huron	56	56	56						
			156.40	Westlands Water District	8,749								
			Thru										
			163.69										
		Check No. 20	164.69										
	21		164.79	City of Avenal	148	148	148						
			167.04	Westlands Water District	1,660								
			Thru										
			171.67										
		Check No. 21	172.40			51,124							
				Reach 7 Total:	10,613	10,613	0	0	0				
				Westlands WD Total:	83,397	83,397	0	0	0				
				City of Coalinga Total:	239	239	0	0	0				
				City of Huron Total:	56	56	0	0	0				
				City of Avenal Total:	148	148	0	0	0				
				Phase I Water Total:	0	0	0	0	0				
Total San Luis Field Division Deliveries:					94,317	94,268	0	27	22				

**Table 20. Consolidated State-Federal San Luis Canal 1/**

Daily Operations

**February 1999**

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
			Non- Project 2/	Dos Amigos Pumping Plant	San Luis Water Dist. 3/	Panoche Water District	Westlands Water Dist. 4/	Flow Past Check 21	
Jan 31	26,751								
1	27,146	395	0	2,333	60	101	1,435	498	-40
2	27,540	394	0	2,338	74	93	1,485	395	-93
3	26,856	-684	0	2,236	102	94	1,676	842	133
4	26,149	-707	0	2,275	91	73	1,630	852	15
5	26,035	-114	0	2,062	90	73	1,627	455	126
6	25,451	-584	0	2,089	105	93	1,607	784	206
7	26,052	601	0	2,644	101	93	1,658	664	175
8	26,872	820	0	2,745	71	70	1,305	673	-213
9	26,815	-57	0	2,209	108	66	1,449	799	184
10	26,978	163	0	2,384	108	67	1,371	649	-106
11	28,272	1,294	0	2,791	110	73	1,547	592	184
12	28,092	-180	0	2,104	110	73	1,350	569	-93
13	27,956	-136	0	2,021	84	69	1,530	425	18
14	28,329	373	0	2,150	105	77	1,457	337	14
15	28,314	-15	0	2,132	131	56	1,619	527	194
16	26,541	-1,773	0	1,031	122	73	1,595	424	289
17	26,113	-428	0	1,780	119	43	1,465	443	74
18	26,150	37	0	2,368	88	48	1,520	879	185
19	26,338	188	0	2,817	88	48	1,448	1,109	-29
20	26,666	328	0	3,019	40	57	1,598	1,127	-32
21	26,710	44	0	2,445	122	50	1,667	948	364
22	26,862	152	0	2,755	114	39	1,426	1,144	45
23	27,833	971	0	3,418	99	41	1,667	1,301	180
24	27,927	94	0	2,986	100	41	1,057	1,360	-380
25	27,910	-17	0	3,132	123	55	1,488	1,709	235
26	27,698	-212	0	3,459	103	53	1,176	2,085	-149
27	27,623	-75	0	3,504	115	55	1,546	2,023	197
28	28,658	1,035	0	4,050	162	67	1,870	2,161	732
Total		1,907	0	71,277	2,845	1,841	42,269	25,775	2,414
Mean (cfs)		---	0	2,546	102	66	1,510	921	86
Acre-feet		1,907	0	141,376	5,643	3,652	83,841	51,124	4,791

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Pump In of Non-Project Water (0 AF @ Lat.7L) and Flood Water (0 AF) is included in the gain or loss.

3/ Includes 880 AF AG &amp; 1 AF M&amp;I to Pacheco W.D. and 62 AF to the City of Dos Palos.

4/ Includes 56 AF to the City of Huron, 148 AF to the City of Avenal, 239 AF to the City of Coalinga, 0 AF Phase I Water @ Lat. 13R, and 1 AF to Broadview W.D.

**Table 21. San Joaquin Field Division Plant Data**

(in acre-feet)

**February 1999**

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	288	288	36	35	36	106	0	0	0
2	308	308	20	23	25	79	0	0	0
3	398	398	46	46	46	285	93	74	0
4	359	359	46	45	46	210	58	26	0
5	389	389	36	36	36	238	87	49	0
6	339	339	50	51	54	185	0	0	0
7	297	297	46	46	46	188	0	0	0
8	269	269	41	45	46	212	0	0	0
9	213	213	46	46	46	185	0	0	0
10	160	160	24	24	25	367	116	105	0
11	167	167	59	60	63	168	0	0	0
12	105	105	40	42	44	53	0	0	0
13	78	78	32	32	32	132	0	0	0
14	101	101	62	64	67	106	0	0	0
15	89	89	17	17	17	185	0	0	0
16	107	107	25	25	25	185	0	0	0
17	70	70	0	0	0	367	84	51	0
18	91	91	0	0	0	367	0	0	0
19	68	68	17	19	21	367	58	0	0
20	107	107	72	72	72	420	58	0	0
21	77	77	45	46	46	315	0	0	0
22	109	109	43	44	44	315	0	0	0
23	114	114	34	36	38	367	0	0	0
24	145	145	65	64	65	525	58	51	0
25	167	167	57	57	57	472	58	0	0
26	163	163	44	46	48	1,313	1,078	991	1,031
27	221	221	55	52	55	1,155	831	749	717
28	200	200	51	54	56	1,229	928	851	922
Total	5,199	5,199	1,109	1,127	1,156	10,096	3,507	2,947	2,670

**Table 22a. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

**February 1999**

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries						
	Beginning and Ending				Entitle-ment	Inter-ruptible Ent.	Stored Inter-ruptible /1	USBR	MWD Ent.		
	No.	Structure									
7	21	Check No. 21	172.40	51,124							
8C	22		Empire West Side Irrig. Dist. TL - A County of Kings TL - A TLBWS D TL-A 175.18 DRWD - 1 177.54 DRWD - 1B 180.64 TLBWS D - C 180.65 DRWD - 1A 182.99 DRWD - 2 183.00 Tulare Lake Basin WSD TL - B 184.63 Coastal Branch	172.66	0						
					135	1,285					
					19	597					
					788	3,773					
					79						
					1,021	597	0	0	0		
				1,618	0	5,058	0	0	0		
				5,058							
			Check No. 22	184.82							
8D	31A		Kern County Water Agency Lost Hills Water Dist. - 1 Kern County Water Agency Lost Hills Water Dist. - 2 Kern County Water Agency Lost Hills Water Dist. - 3 Kern County Water Agency Berrenda Mesa - 2 Kern County Water Agency Lost Hills Water Dist. - 4 K.C.W.A. Reach 8D Subtotal:	189.69	1,063						
				191.18	7						
				194.22	12						
				196.40							
				196.75							
				1,082	1,082	0	0	0	0		
			Check No. 23	197.05							
10A	9		Kern County Water Agency Lost Hills Water Dist. - 7 Kern County Water Agency Lost Hills Water Dist. - 5 Kern County Water Agency Lost Hills Water Dist. - 6 Kern County Water Agency Lost Hills Water Dist. - 8 K.C.W.A. Reach 9 Subtotal:	201.24	116						
				202.05	286						
				204.69							
				205.26							
				Check No. 24	207.94						
				209.71	180						
				209.78	Kern National Wildlife Refuge USBR BV-1B	0					
				209.80	Kern County Water Agency Buena Vista WSD 1B	406					
					KCWA Semitropic WSD	15,589					
					KCWA Semitropic WSD Penstocks	0					
						USBR Total:	0				
						16,577	582	1,825	14,170		
							0	0	0		

1/ Semitropic WSD is storing 7,950 AF of this water for WDSC; 5,390 AF for Santa Clara Valley WD; and 830 Af for Alameda County WD.

**Table 22b. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries						
	Beginning and Ending		Mile			Entitle- ment	Inter- ruptible Ent.	MWD Ent. Exch.	MWD Exchange	MWD Ent.		
	No.	Structure										
11B	25		210.75	Kern County Water Agency Belridge - 2	0	357						
			214.11	Kern County Water Agency Belridge - 3	357							
			216.62	Kern County Water Agency Belridge - 4	0							
			217.13	Kern County Water Agency Belridge - 5	2,326	2,326						
				Kern County Water Agency Belridge - 5D	92							
		Check No. 25	217.79									
				K.C.W.A. Reach 11B Subtotal:	2,775	2,775	0	0	0	0		
12D	26		219.58	Kern County Water Agency Belridge - 6	0							
			Check No. 26	224.92								
12E	27		230.37	Kern County Water Agency Buena Vista - 6	2,165	2,165						
			Check No. 27	231.73								
	28		235.75	Kern County Water Agency Buena Vista - 2	0		1,301					
			238.04	Kern County WA CVC	1,301							
				DRWD CVC	0							
				Tulare Co.	0							
				Lower Tule River	0							
				Fresno Co.	0							
				Pixley ID	0							
				Hacienda								
				DWR Wells	0							
		Check No. 28	238.11									
13B	29		1/ Arvin Edison Total:	0	0	0	0	0	0	0		
			Reach 12E Subtotal:	3,466	0	3,466	0	0	0	0		
			241.02	Kern River Intertie (inflow)	0	1,437						
				KCWA Buena Vista WSD - 7	0							
			242.85	KCWA Buena Vista WSD - 5	0							
		Check No. 29	243.09	Kern County Water Agency Buena Vista - 3	1,437							
			244.54	Buena Vista WSD	0							
			249.85	Kern County Water Agency Buena Vista - 4	0							
			250.99		10,096							
				K.C.W.A. Reach 13B Subtotal:	1,437	0	1,437	0	0	0		
14A	31		254.47	Kern County Water Agency West Kern - 2	0	54						
			256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	54							

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

**Table 22c. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitlement	Inter-ruptible Ent.	MWD	Exchange	MWD Ent.	
	No.	Structure	Mile	Ent. Exch.							
14A	31	Check No. 31	256.14			121	121				
	32		258.61	Kern County Water Agency Wheeler Ridge-Maricopa - 3	121						
			260.44	Kern County Water Agency Wheeler Ridge-Maricopa - 4	425						
		Check No. 32	261.72								
				KCWA Reach 14A Subtotal:	600		600	0	0	0	
14B	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	1,867	2,189	1,867				
			266.91	Kern County Water Agency Wheeler Ridge-Maricopa - 6	30						
		Check No. 33	267.36								
	34		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 7	2,189						
		Check No. 34	271.27								
				Reach 14B Total:	4,086		4,086	0	0	0	
14C	35		272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 8	986	689	986				
			276.09	Kern County Water Agency Wheeler Ridge-Maricopa - 9	689						
				Reach 14C Total:	1,675						
		Teerink Pumping Plant	278.13		3,507						
	36		279.02	Kern County Water Agency Wheeler Ridge-Maricopa - 9A	35	308	35				
			280.06	Kern County Water Agency Wheeler Ridge-Maricopa - 10	308						
				Reach 15-A Total:	343						
		Chrisman Pumping Plant	280.36		2,947						
15A	37		282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 11	0	2,947	1				
		Check No. 37	283.95								
	38		285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 12	1		38				
			286.39	Kern County Water Agency Wheeler Ridge-Maricopa - 13A	38						
			287.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13	0						
		Check No. 38	287.09								
	39		287.62	Kern County Water Agency Wheeler Ridge-Maricopa - 13B	1		1				
		Check No. 39	290.21								
16A	40		291.26	Kern County Water Agency Wheeler Ridge-Maricopa - 14	74	242	74				
			293.07	Kern County Water Agency Wheeler Ridge-Maricopa - 15	1						
				Kern County Water Agency Tehachapi Cummings CWD	242						
				K.C.W.A. Reach 16A Subtotal:	357						
		Edmonston Pumping Plant	293.45		2,670						

**Table 23. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

**February 1999**

		Operating Pool		Turnout	Total Diversions	Deliveries						
Reach No.	No.	Beginning and Ending				Entitlement	Inter-ruptible Ent.	MWD Ent.	Exchange	Stored Inter-ruptible /1		
		Structure	Mile									
31A	C-1	Coastal Branch Control	0.02	Green Valley Water District	5,199	860	202	2,902	0	0		
		Las Perillas Pumping Plant	1.16		5,199							
	C-2	Badger Hill Pumping Plant	3.79		0							
			4.27		5,199							
	C-3	Coastal Check No. 3	7.21		0							
	C-4	Coastal Check No. 4	9.34		860							
			9.34		0							
	C-5	Coastal Check No. 5	12.20		0							
	C-6	Devil's Den Pumping Plant	13.30	Kern County Water Agency Berrenda Mesa - 3	202							
			14.83	Kern County Water Agency Berrenda Mesa - DD	0							
				Kern County Water Agency Berrenda Mesa - PO	2,902							
			14.86		1,109							
				K.C.W.A. Reach 31A Subtotal:	3,104	0	3,104	0	0	0		
				K.C.W.A. Total:	35,502	11,258	10,074	0	0	14,170		
33A	C-7	Bluestone Pumping Plant	19.05		1,127	857	287	0	0	0		
	C-8	Polonio Pass Pumping Plant	26.54		1,156							
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant	0							
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	857							
		Tank Site 2	58.63	Central Coast:	0							
34	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	287							
		Energy Dissipater	78.12		0							
		Lopez T.O.	85.86	SLOCFC & WCD	0	1,144	0	0	0	0		
35	C-12			CCWA Total:	1,144							
		Guadalupe T.O.	102.70	SBCFC & WCD	0							
		Santa Maria T.O.	107.43	SBCFC & WCD	0							
		So. Cal. Water T.O.	109.20	SBCFC & WCD	0							
				SBCFC & WCD Total:	0	0	0	0	0	0		
38		Tank Site 5	115.42		0							

1/ Semitropic WSD is storing 7,950 AF of this water for WDSC; 5,390 AF for Santa Clara Valley WD; and 830 Af for Alameda County WD.





**Table 26. Elderberry Forebay**

Daily Operation

(in acre-feet except as noted)

Capacity: 32,746 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)	
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake			
							Natural	Project		
Jan 31	1505.31	17,423								
1	1507.25	18,141	718	2,759	22	1,940	0	0	-123	
2	1509.83	19,119	978	2,921	25	1,740	0	0	-228	
3	1515.56	21,388	2,269	3,470	26	1,090	0	0	-137	
4	1517.93	22,367	979	2,989	23	1,846	0	0	-187	
5	1519.75	23,134	767	1,684	22	869	0	0	-70	
6	1514.68	21,031	-2,103	792	22	2,796	0	0	-121	
7	1507.65	18,291	-2,740	875	20	3,600	0	0	-35	
8	1510.50	19,377	1,086	3,292	19	2,258	0	0	33	
9	1513.01	20,361	984	3,616	32	2,539	0	0	-125	
10	1515.36	21,307	946	3,121	43	1,987	0	0	-231	
11	1516.17	21,638	331	2,048	32	1,652	0	0	-97	
12	1515.25	21,262	-376	2,233	24	2,556	0	0	-77	
13	1512.60	20,199	-1,063	96	18	1,166	0	0	-11	
14	1502.98	16,579	-3,620	883	16	4,483	0	0	-36	
15	1506.78	17,966	1,387	2,715	15	1,279	0	0	-64	
16	1507.76	18,332	366	2,477	17	2,039	0	0	-89	
17	1508.61	18,653	321	2,131	18	1,774	0	0	-54	
18	1511.27	19,676	1,023	3,005	19	1,948	0	0	-53	
19	1510.73	19,466	-210	1,860	18	2,006	0	0	-82	
20	1510.43	19,350	-116	535	18	606	0	0	-63	
21	1509.99	19,180	-170	798	17	941	0	0	-44	
22	1509.99	19,180	0	1,554	17	1,675	0	0	104	
23	1508.42	18,581	-599	1,796	16	2,226	0	0	-185	
24	1508.15	18,479	-102	596	15	692	0	0	-21	
25	1508.01	18,426	-53	1,717	15	1,710	0	0	-75	
26	1512.04	19,978	1,552	2,567	14	831	0	0	-198	
27	1514.62	21,006	1,028	1,110	14	0	0	0	-96	
28	1516.49	21,769	763	791	13	0	0	0	-41	
<b>Total</b>				<b>4,346</b>	<b>54,431</b>	<b>570</b>	<b>48,249</b>	<b>0</b>	<b>0</b>	<b>-2,406</b>

**Table 27. Castaic Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow		Computed Losses (-) Gains (+)	
				From Elderberry Forebay		Natural	Deliveries	Released To Castaic Lagoon		
				Natural	Project					
Jan 31	1478.32	247,657								
1	1478.12	247,274	-383	0	0	34	474	60	117	
2	1477.79	246,641	-633	0	0	26	603	51	-5	
3	1477.46	246,010	-631	0	0	24	520	40	-95	
4	1477.25	245,608	-402	0	0	23	547	40	162	
5	1476.95	245,035	-573	0	0	24	511	40	-46	
6	1476.75	244,654	-381	0	0	23	514	40	150	
7	1476.42	244,025	-629	0	0	21	546	40	-64	
8	1475.96	243,150	-875	0	0	20	534	40	-321	
9	1475.96	243,150	0	0	0	51	485	40	474	
10	1475.65	242,561	-589	0	0	61	487	40	-123	
11	1475.40	242,087	-474	0	0	36	506	40	36	
12	1475.20	241,708	-379	0	0	31	505	39	134	
13	1474.89	241,121	-587	0	0	26	554	39	-20	
14	1474.61	240,591	-530	0	0	26	555	39	38	
15	1474.20	239,817	-774	0	0	26	579	39	-182	
16	1474.00	239,440	-377	0	0	26	535	39	171	
17	1473.65	238,781	-659	0	0	24	523	39	-121	
18	1472.68	236,959	-1,822	0	0	24	615	0	-1,231	
19	1472.43	236,491	-468	0	0	23	576	0	85	
20	1472.13	235,929	-562	0	0	22	591	0	7	
21	1471.76	235,238	-691	0	0	22	615	0	-98	
22	1471.36	234,492	-746	0	0	21	749	0	-18	
23	1470.91	233,654	-838	0	0	21	907	0	48	
24	1470.37	232,650	-1,004	0	0	21	968	0	-57	
25	1469.80	231,594	-1,056	0	0	21	1,054	0	-23	
26	1469.23	230,540	-1,054	0	0	21	1,074	0	-1	
27	1468.66	229,488	-1,052	0	0	20	1,068	0	-4	
28	1468.12	228,494	-994	0	0	20	1,055	0	41	
Total			-19,163	0	0	738	18,250	705	-946	

**Table 28. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries						
	Beginning and Ending		Structure			Entitle- ment	Rec.	Local	Purchase	CLWA		
	No.	Mile							Pool B	T1 2/		
29A	42	Oso Pumping Plant	1.49		714							
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Re-moved							
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub							
		Warne Power Plant	14.07		0							
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	0							
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0							
29J	W4	Castaic Power Plant	25.82	( 48,249 AF pumpback )	54,431							
30 1/		Elderberry Forebay										
		Forebay Dam	28.12									
W5	Castaic Lake		Calif. State Park Castaic Lake Recreation	25		25						
	30 1/		Dam	31.47								
			Castaic Lake Outlet	31.55	MWD - 78"	0						
					MWD - 132"	17,317	17,317					
					CLWA - T1	-456	298					
					Castaic Lake Water Agency	754	154					
					United Water Conservation Dist.	0						
					Ventura County FCD	154						
					LA Co. Parks & Recreation	0						
					Releases to Lagoon	705						
					Reach 30 Subtotal:	17,794	17,769	25	0	0	0	
	W6	Castaic Lagoon		Recreation to Lagoon	36		36					
		Outlet	31.87		775							

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

2/ SWP wheeling of water between Castaic Lake Water Agency and Metropolitan Water District of Southern California.



**Table 30. Lake Perris**

## Daily Operation

(in acre-feet except as noted)

Capacity: 131,452 ac-ft

**February 1999**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Jan 31	1586.93	124,396				
1	1586.99	124,396	0		10	
2	1586.95	124,442	46		11	
3	1586.98	124,510	68		11	
4	1586.99	124,533	23		10	
5	1587.00	124,556	23		11	
6	1587.02	124,601	45		11	
7	1587.01	124,579	-22		11	
8	1587.02	124,601	22		112	
9	1587.03	124,624	23		8	
10	1587.02	124,601	-23		12	
11	1586.97	124,487	-114		27	
12	1586.91	124,351	-136		90	
13	1586.88	124,283	-68		85	
14	1586.82	124,146	-137		80	
15	1586.78	124,005	-141		80	
16	1586.74	123,964	-41		79	
17	1586.71	123,896	-68		79	
18	1586.64	123,737	-159		81	
19	1586.60	123,646	-91		105	
20	1586.56	123,556	-90		105	
21	1586.47	123,351	-205		100	
22	1586.48	123,374	23		11	
23	1586.47	123,351	-23		12	
24	1586.46	123,329	-22		9	
25	1586.42	123,238	-91		12	
26	1586.41	123,215	-23		11	
27	1586.43	123,261	46		9	
28	1586.45	123,306	45		10	
Total			-1,090	626	1,192	-524

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California State Park at lake Perris.

**Table 31a. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitle-ment	Rec.	Transfer	Purchase Pool B	Transfer Local Out	
	No.	Structure	Mile							
17E	40	Edmonston Pumping Plant	293.45		2,670					
	41		298.65	Kern County Water Agency Tej.-Cas	Stub					
17F		Check No. 41	303.41							
18A	42	Check No. 42	304.99							
19	43	Alamo Powerplant	305.73	(The entire 1,953 AF flowed down Cottonwood Chute)	1,953					
			308.05	Antelope Valley-East Kern WA	0					
		Check No. 43	309.70							
	44		311.84	LADWP Connection	0					
			313.50	AVEK 245th Street West	0					
		Check No. 44	314.81							
	45		314.93	AVEK 235th Street West	1					
			315.57	AVEK 225th Street West	0					
		Check No. 45	319.74							
	46		323.19	Antelope Valley-East Kern WA Fairmont	842					
			323.84							
				Reach 19 Total:	843					
20A	47	Check No. 47	326.77							
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	2					
			329.65	Antelope Valley-East Kern WA 120th Street West	Re-moved					
		Check No. 48	330.82							
	49	Check No. 49	335.93							
	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	28					
				Antelope Valley-East Kern WA	892					
		Check No. 50	341.51							
20B	51	Check No. 51	342.07							
	52		342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use					
		Check No. 52	343.74							
	53		346.98	PWD Palmdale	0					
			348.14	Antelope Valley-East Kern WA Acton Treatment Plant	0					
		Check No. 53	348.17							
21	54	Check No. 54	350.25							
	55	Check No. 55	352.70							
	56	Check No. 56	354.76							
			354.97	Littlerock Creek I.D.	0					
22A	57	Check No. 57	356.93							
	58		357.72	Antelope Valley-East Kern WA 96th Street East	21					
22B			359.82	Antelope Valley-East Kern WA East Side Treatment Plant	203					

**Table 31b. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

**February 1999**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending		Structure			Entitlement	Recreation	Ex-change	Purchase Pool B	Local		
	No.	Structure	Mile									
22B	58	Pearblossom Pumping Plant	360.61		0	8						
	59	Check No. 59	366.09									
	60	Check No. 60	373.94									
	61	Check No. 61	379.00									
	62	Check No. 62	384.26									
	63	Check No. 63	389.50									
	64	Check No. 64	395.10									
	65	Check No. 65	400.32									
	66		401.10	Mojave Water Agency								
				Morongo 24" and 42"	8							
23	Check No. 66	403.41		Mojave Water Agency		30				0		
	Mojave Siphon	405.48		Hesperia	0							
24	Mojave Siphon Powerplant	405.65		(Does not include 556 AF of bypass at Mojave Flume)	0	1				12		
	67	Silverwood Lake	407.65	Crestline Lake Arrowhead Water Agency	42							
25	San Bernardino Tunnel	411.46		Calif. State Park		1						
				Silverwood Agency (Rec.)	1							
26A	Devil Canyon Powerplant	412.73			5,246	661						
	68	Devil Canyon Afterbay Control Structures	412.88	MWD-SC Rialto	661							
				Desert Water Agency (MWD Wheeling Exchange)	1,919							
				San Gabriel Valley Water District	0							
				Coachella Valley WD (MWD Wheeling Exchange)	1,163							
				San Bernardino Valley Metropolitan Water District	74							
				MWD (SBVMWD Exchange)	0							
28G				425.46								
28H	69	Santa Ana Valley Pipeline	433.06	MWD-SC Box Springs	1,799							
			440.05	MWD-SC Perris Bypass Pipeline	0							
28J			442.00	MWD-SC 18"	294	294						
			443.44	MWD-SC 54"	0							
				MWD-SC 78"	0							
				Calif. State Park								
				Lake Perris Recreation	12							
				MWD Total:	23,307	23,307	0	0	0	0		

**Table 32. Water Quality At Selected SWP Locations**

February 1999

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l	36	78	62	46	59	62	74	109	67
Arsenic	mg/l	<0.001	0.002	0.001	<0.001	0.001	0.001	0.002	0.003	0.002
Boron	mg/l	< 0.01	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1
Bromide	mg/l	< 0.01	0.03	0.12	0.05	0.09	0.10	0.15	0.13	0.09
Calcium	mg/l	8	11	20	12	17	18	20	27	18
Carbon - Total Organic	mg/l	NR	15	4	3	4	4	NR	3	2
Chloride	mg/l	1	24	44	19	35	39	53	42	30
Chromium	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005
Copper	mg/l	<0.001	0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Fluoride	mg/l	< 0.01	0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.2	< 0.01
Hardness	mg/l	32	69	91	55	75	82	91	121	78
Iron	mg/l	<0.005	0.061	0.013	0.007	0.013	0.010	<0.005	<0.005	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	3	10	10	6	8	9	10	13	8
Manganese	mg/l	<0.005	0.011	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	0.006
Nitrate + Nitrite	mg/l	0.04	0.47	1.20	NR	NR	NR	NR	0.36	0.54
Phosphorus-Ortho	mg/l	<0.01	0.12	0.08	NR	NR	NR	NR	<0.01	0.08
Phosphorus-Total	mg/l	0.02	0.40	0.13	NR	NR	NR	NR	0.04	0.09
Selenium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	mg/l	3	36	38	17	29	34	46	41	27
Specific Conductance	µS/cm	79	292	384	210	323	346	418	433	290
Sulfate	mg/l	3	26	48	24	40	44	44	47	26
Total Dissolved Solids	mg/l	56	173	218	112	171	189	216	223	150
Trihalomethane Formation Potential	µg/l	NR	1689	490	340	468	NR	336	335	313
Turbidity	NTU	4	222	9	22	12	4	3	3	2
Zinc	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

mg/l milligrams per liter

µg/l micrograms per liter

µS/cm microSiemens per centimeter

NR - Not Reported

NTU - nephelometric turbidity units



**Table 34. Pesticides, Herbicides, and Other Organic Substances Detected In the SWP**

**February 1999**

Sampling Location	Sample Date 1/	Chemical Detected	Concentration µg/l 2/
North Bay Aqueduct At Barker Slough Pumping Plant	September-16-1998	None Detected	
California Aqueduct At Banks Pumping Plant	September-16-1998	2, 4-D MTBE	0.71 1.60
Delta Mendota Canal At McCabe Road	September-16-1998	2, 4-D MTBE	0.10 1.10
California Aqueduct Near Kettleman City (Check 21)	September-16-1998	2,4, - D	0.11
California Aqueduct At Tehachapi Afterbay (Check 41)	September-16-1998	None Detected	
Devil Canyon Power Plant At Entrance To Santa Ana Pipeline	September-16-1998	None Detected	

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ Micrograms per liter.

**Table 35. Oroville and Delta Field Divisions Energy Data**

(in kWh)

**February 1999**

Date	Oroville Thermalito Complex		Barker Slough Pumping Plant Load	Cordelia Pumping Plant Load	Banks Pumping Plant		South Bay Pumping Plant Load	Del Valle Pumping Plant Load
	Generation	Load			Total Load	SWP Load		
1	11,035,296	0	10,640	22,834	182,592	182,592	297,555	8,417
2	9,213,984	0	10,906	24,619	148,992	148,992	306,370	9,003
3	9,505,152	2,880	12,747	24,598	181,440	181,440	321,780	10,543
4	11,498,976	0	12,586	26,026	165,504	165,504	307,705	10,580
5	16,555,104	0	13,650	26,159	128,640	128,640	310,230	10,509
6	18,296,928	0	9,807	24,612	101,568	101,568	307,325	10,662
7	18,330,624	0	9,814	24,409	128,448	128,448	300,895	10,712
8	17,631,648	0	12,299	23,912	221,184	221,184	289,355	8,997
9	16,035,840	0	9,681	20,531	408,576	408,576	283,135	8,866
10	17,820,576	0	11,291	26,026	471,552	471,552	253,095	7,435
11	17,631,072	0	10,493	24,591	917,952	917,952	117,765	301
12	17,920,800	0	10,318	23,205	784,896	784,896	111,825	236
13	17,919,936	0	12,607	26,292	339,072	339,072	89,275	202
14	17,936,352	0	10,724	22,946	622,464	622,464	99,345	232
15	17,885,952	0	5,411	14,504	310,272	310,272	94,035	230
16	17,921,664	0	7,434	17,619	122,496	122,496	88,595	486
17	17,913,888	0	7,609	14,931	68,352	68,352	92,900	605
18	17,924,544	0	6,111	14,749	47,040	47,040	101,050	453
19	17,904,960	0	6,503	14,735	17,088	17,088	97,465	221
20	17,893,152	0	7,504	16,016	53,184	53,184	95,200	247
21	17,825,184	0	5,215	14,707	53,184	53,184	101,535	226
22	17,900,352	0	5,908	14,294	289,920	289,920	98,545	217
23	16,527,168	0	6,321	15,596	766,656	766,656	100,445	220
24	16,708,032	0	9,149	16,401	1,573,248	438,248	99,095	224
25	16,673,760	0	5,964	14,693	1,639,296	504,296	142,320	231
26	16,392,672	0	6,818	14,700	1,873,728	738,728	101,040	232
27	14,957,280	0	7,350	16,170	2,217,408	787,408	87,970	218
28	16,013,664	0	5,285	14,707	1,299,264	1,299,264	88,775	210
Total	457,774,560	2,880	250,145	554,582	15,134,016	10,299,016	4,784,625	100,715

**Table 36. San Luis Field Division Energy Data**

(in kWh)

February 1999

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	637,632	91,632	0	0	807,264	24,264
2	638,208	92,208	0	0	806,400	23,400
3	606,384	60,384	0	0	630,432	21,432
4	625,968	55,968	0	0	23,328	23,328
5	573,984	75,984	0	0	794,016	11,016
6	591,696	215,696	0	0	730,080	19,080
7	708,624	156,624	0	0	2,224,512	-7,488
8	748,800	199,800	0	0	26,208	26,208
9	605,664	56,664	44,928	44,928	23,328	23,328
10	663,984	75,984	145,440	145,440	1,095,552	-11,448
11	759,888	209,888	0	0	1,106,208	-792
12	601,776	13,776	0	0	1,416,096	-14,904
13	565,056	15,056	0	0	1,118,592	5,592
14	585,216	33,216	0	0	1,240,704	16,704
15	602,928	53,928	0	0	477,792	18,792
16	308,736	21,736	0	0	478,944	19,944
17	506,448	33,448	0	0	481,536	22,536
18	684,144	201,144	0	0	2,080,224	11,224
19	773,856	265,856	0	0	1,102,176	13,176
20	834,192	308,192	0	0	379,584	22,584
21	699,408	171,408	0	0	1,231,488	7,488
22	773,712	194,712	165,888	165,888	442,944	-9,056
23	938,880	359,880	92,448	92,448	2,015,424	-18,576
24	835,200	175,200	6,624	6,624	2,015,424	-18,576
25	879,984	179,984	0	0	1,673,856	-45,144
26	938,160	413,160	0	0	1,701,792	-189,208
27	939,600	441,600	0	0	1,825,056	5,056
28	1,099,152	595,152	0	0	4,186,080	-13,920
Total	19,727,280	4,768,280	455,328	455,328	32,135,040	-13,960

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping; adjustments to SWP water shares are made to balance the mismatch.

**Table 37. San Joaquin Field Division Pumping Plant Energy Load Data**

(in kWh)

**February 1999**

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	22,934	63,320	27,288	27,324	26,676	35,208	9,504	22,752	46,080
2	24,020	67,728	15,714	17,982	18,900	28,296	9,648	22,752	46,800
3	31,118	90,232	33,948	34,506	33,264	77,472	33,192	72,000	46,080
4	28,432	82,392	33,912	34,398	33,264	59,760	24,912	39,456	46,080
5	29,516	87,616	27,036	27,486	26,838	66,384	32,256	54,720	47,520
6	26,634	73,360	36,432	38,610	39,150	54,432	9,576	22,176	46,080
7	23,628	66,744	33,588	34,524	33,282	53,712	9,216	21,312	45,360
8	21,204	58,368	30,186	34,200	33,282	58,608	9,360	21,888	44,640
9	17,908	46,816	33,750	34,740	33,300	53,280	9,576	22,464	43,920
10	13,304	36,944	18,828	19,386	18,900	99,864	40,464	91,584	43,920
11	13,372	35,864	43,218	44,982	44,838	49,968	10,872	22,752	44,640
12	9,014	21,408	30,186	31,770	31,644	22,536	10,224	22,176	42,480
13	7,092	17,304	24,552	25,182	23,922	41,688	9,432	21,600	43,200
14	8,920	22,080	45,540	48,132	48,042	34,848	9,360	21,888	43,200
15	7,998	20,472	13,644	13,860	13,410	53,136	9,504	21,312	42,480
16	9,038	22,520	19,206	19,512	18,774	53,640	9,576	22,464	42,480
17	6,550	16,776	1,566	1,584	1,458	94,752	31,392	55,584	42,480
18	7,696	17,920	1,620	1,602	1,332	98,352	9,288	22,752	43,200
19	6,146	15,520	13,680	15,048	16,380	96,768	24,264	22,752	43,200
20	8,204	20,464	52,020	52,758	51,822	108,144	24,264	21,888	43,200
21	6,206	14,064	33,930	34,488	33,498	82,440	9,360	22,464	43,920
22	8,316	20,800	32,076	32,796	32,166	87,984	9,576	23,328	42,480
23	8,584	20,664	25,722	27,378	27,522	97,488	9,576	23,040	43,920
24	10,786	27,096	47,322	47,592	47,034	133,632	24,408	54,720	45,360
25	12,404	34,216	41,508	42,678	41,292	121,752	24,552	22,176	44,640
26	12,034	30,160	32,382	34,830	34,542	321,480	286,056	634,464	2,336,400
27	15,798	39,960	40,140	39,654	39,798	286,776	227,088	509,472	1,648,800
28	15,516	40,912	37,674	40,068	40,518	304,200	248,472	568,512	2,102,400
Total	412,372	1,111,720	826,668	857,070	844,848	2,676,600	1,174,968	2,504,448	7,194,960

**Table 38. Southern Field Division Energy Data**

(in kWh)

February 1999

Date	West Branch			East Branch			
	Oso Pumping Plant Load	Warne Powerplant Generation	Castaic Powerplant SWP Generation	Alamo Powerplant Generation	Pearblossom Pumping Plant Load	Devil Canyon Powerplant Generation	Mojave Siphon Powerplant Generation
1	9,296	0	0	0	19,392	396,480	0
2	9,072	0	0	0	18,804	424,704	0
3	9,464	0	0	0	18,456	236,448	0
4	8,624	0	0	0	18,756	300,960	0
5	9,296	0	0	0	18,852	314,688	0
6	8,568	0	0	0	17,592	314,496	0
7	8,848	0	0	0	16,944	295,680	0
8	8,456	0	0	0	17,796	129,984	0
9	9,296	0	0	0	19,092	95,808	0
10	10,136	0	0	0	21,348	99,552	0
11	10,528	0	0	0	21,348	131,328	0
12	9,576	0	0	0	19,680	164,736	0
13	9,240	0	0	0	17,856	166,848	0
14	9,072	0	0	0	17,184	163,008	0
15	8,792	0	0	0	17,304	157,152	0
16	10,808	0	0	0	18,048	153,888	0
17	11,648	0	0	0	16,944	161,184	0
18	10,864	0	0	0	16,980	158,976	0
19	10,920	0	0	0	17,256	157,824	0
20	10,584	0	0	0	16,416	163,584	0
21	10,304	0	0	0	17,268	162,048	0
22	10,248	0	0	0	18,744	155,328	0
23	9,464	0	0	0	18,405	163,200	0
24	9,856	0	0	0	15,684	156,864	0
25	9,576	0	0	0	15,792	189,984	0
26	198,016	0	0	0	16,980	212,544	0
27	10,136	24,480	0	0	14,928	763,488	0
28	46,368	0	0	0	14,448	0	0
Total	497,056	24,480	0	0	498,297	5,990,784	0